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ABSTRACT

The use of the 1980 Diagnostic Statistical Manual of Mental Disorders, Third Edition (DSM-III) alcohol abuse and depedence diagnostic system rests on the assumption that dependence is physiological and more severe than abuse. To examine the relationship of DSM-III alcohol abuse/dependence diagnoses to patients' patterns of alcohol use and the severity of their alcohol-related impairments, 920 adults (644 males, 276 females), hospitalized for alcoholism, completed the Minnesota Multiphasic Personality Inventory (MMPI) and the Alcohol and Substance Abuse Questionnaire (ASAQ). Responses to the ASAQ were classified according to Total Symptoms and were assigned a diagnosis (DSMDX) of "alcohol abuse," "alchol dependence," or "neither abuse nor dependence," based on DSM-III criteria. Five criterion measures were derived from the tests: days drunk, daily absolute alcohol consumption, problem index, general psychological impairment, and elevated MMPI scales. An analysis of the results showed significant relationships between all five of the criterion measures and both DSMDX and Total Symptoms. However, the strength of the relationship was consistently greater for the Total Symptoms than for DSMDX. Across the criterion measures, the mean proportion of variance explained by Total Symptoms was twice that explained by DSMDX. For only one criterion, general psychological impairment, did DSMDX show a significant improvement in predictability over Total Symptoms; and in this case the increment in predictability was quite small. Total Symptoms, on the other hand, showed highly significant and meaningful improvement over DSMDX for all criterion measures. Tolerance and withdrawal were only mediocre correlates of the criterion variables. These findings suggest that DSM-III diagnosis is less informative than a simple tally of symptoms. (BL)

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Validity of DSM-III Alcoholism Diagnoses: Inadequacy of the "Medical Model".

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Abstract

The logic of the DSM-III's alcohol abuse and dependence diagnostic system rests on two key assumptions: First, that dependence is a fundamentally physiological. as opposed to psychosocial, phenomenon; and, second, that dependence is more severe than abuse. This study calls these assumptions into question. The relationship of DSM-III alcohol abuse/dependence diagnosis to patients' patterns of alcohol use and the severity of their alcohol-related impairments was investigated in a group (n=920) hospitalized for alcoholism. Results of multiple regression and correlational analyses suggested DSM-III diagnosis was less informative than a simple tally of symptoms. The result is discussed in relation to the DSM-III's emphasis on physiological factors in evaluating the severity of problematic alcohol use. Theoretical, clinical and research implications are identified. The potential danger of using physical dependence as a criterion for third-party reimbursement - in the DRG system, for example - is highlighted.

The understanding of problematic alcohol use has been hampered by a lack of consensus regarding basic definitions. For example, the terms addiction, abuse, habituation, disease, and others - each reflecting different assumptions about the basic nature of the problem - have all been used to describe the difference between individuals who have problems with alcohol and those who do not.

In recent years the concept of "dependence" has shown increasing popularity (e.g., Edwards & Gross, 1976; Skinner & Allen, 1982), in part because it avoids the stereotypes associated with terms like "addiction" while still emphasizing the lack of volitional control usually seen as central to the problem. A recognition of, and a distinction between, physical and psychological aspects of dependence has been traditional (Jellinek, 1960; Eddy, Halbach, Isbell, & Seevers, 1965; Pattison & Kaufman, 1982; Vaillant, 1983); although some authors (e.g., Keller, 1980) have questioned the validity of such a distinction.

Since the publication of the American Psychiatric Association's (1980) Diagnostic and Statistical Manual of Mental Disorders - Third Edition (DSM-III), the notion of dependence has acquired additional practical significance because dependence is used there as a primary diagnostic consideration. Dependence may often become, therefore, the basis for treatment decisions, disability determinations, third-party reimbursements, etc.

Table 1 summarizes the DSM-III criteria for diagnoses of alcohol abuse and alcohol dependence. Of particular interest in the present context is the fact that the authors of DSM-III deliberately chose to deemphasize psychosocial factors in establishing dependence (Robins, 1982); and to define it in a purely physiological sense, concentrating on signs of tolerance (the acquired need to consume more alcohol in order to achieve the same effect) and withdrawal (distress upon cessation or reduction in use which is relieved by drinking) as the cardinal indicators of dependence. Psychosocial factors in, and consequences of, problematic drinking are treated as indications of alcohol "abuse", a less severe problem than dependence. To be assigned a diagnosis of abuse, an individual must report at least one symptom from each of the "Pathological Use" and "Impairment in social or occupational functioning" categories and must have shown these symptoms for at least 30 days. For a diagnosis of dependence, the person need only report one pathological use or impairment symptom along with either tolerance or withdrawal. The strong emphasis placed on tolerance and withdrawal as pathognomonic indicators means that a person reporting either of these symptoms is assigned the more severe diagnosis of dependence even if only one sign of psychosocial impairment or pathological use is present. In contrast, a person experiencing many serious problems due to drinking, such as arrests, family disruption, job loss, etc, who, by virtue, for example, of an

episodic drinking pattern, showed neither tolerance nor withdrawal, would be given the more benign diagnosis of abuse.

The DSM-III's logic is sufficiently counter-intuitive that at least two large-scale research efforts, one headed by a prominent psychiatrist in the field (Vaillant, 1983) and another by the Congressional Office of Technology Assessment (Saxe, Dougherty, Esty & Fine, 1983), have been carried out using misinterpretations of the DSM-III criteria. Both of these seem to have interpreted the DSM-III criteria for alcohol dependence as including the full requirements for abuse plus tolerance or withdrawal. This would make more sense to us too; it is not however, as pointed out above, a correct interpretation of DSM-III. In addition to deviating from the common sense of at least some major researchers in the field, the DSM-III's heavy emphasis on the physiological aspects of dependence runs counter to recent theoretical (Gitlow, 1982) and empirical (Bozarth & Wise, 1984; Wise, 1984) positions which strongly suggest that physical addiction is not the major factor in substance dependence.

A definition of dependence as a predominantly physiological problem might also suggest that treatment be centered around medical (as opposed to social, psychological or behavioral) interventions (Marlatt, 1983), a point the DSM-III's authors may (Smith & Kraft, 1983) or may not (Millon, 1983) have had in mind when they developed the diagnostic criteria. The validity of the DSM-III criteria is, therefore, of considerable political, as well as theoretical and clinical, importance.

This paper reports an empirical investigation of the validity of the DSM-III alcohol abuse/dependence classification system. The predictive power of the DSM-III's diagnostic logic, in which physiological symptoms are given special weight, is compared to an alternative system which "unweights" the symptoms by simply tallying the number of DSM-III symptoms reported by each subject, regardless of whether the symptoms are physical or psychosocial. This comparison reflects an additional theoretical distinction. The DSM-III provides a categorical diagnosis of alcoholism. A person either is or is not, depending on whether physical dependence is reported. In contrast to a categorical approach, a variety of authors (e.g., Skinner & Allen, 1982; Stockwell, Hodgson, Edwards, Taylor and Rankin, 1979; Vaillant, 1983) have suggested that alcoholism occurs on a continuum; the number and nature of a person's alcohol-related problems defining his or her position on the continuum. The comparison of predictive power between the DSM-III diagnosis per se, on one hand, and the number of DSM-III symptoms on the other addresses this theoretical distinction.

Method

Participants were 644 men and 276 women (n=920) patients at a licensed substance abuse specialty hospital. All completed the MMPI and the Alcohol and Substance Abuse Questionaire (ASAQ), an extensive self-report instrument which elicits in-depth information concerning the patient's demographic characteristics, background, substance abuse history and pattern, level of psychosocial functioning and severity of impairment[1].

Based on their responses to the ASAQ, a computer procedure classified each participant as either positive or negative on 13 of the 15 symptoms used in the DSM-III system[2]. The number of positive symptoms present for each patient was recorded as TOTAL SYMPTOMS. Then, each patient was assigned a diagnosis (DSMDX) of "alcohol abuse", "alcohol dependence" or "neither abuse nor dependence" based on DSM-III criteria. In addition, five dependent measures were derived from the ASAQ and the MMPI: DAYS DRUNK, the number of days during the month prior to admission that the patient had felt drunk; DAILY ABSOLUTE ALCOHOL CONSUMPTION, the typical amount of ethanol consumed; PROBLEM INDEX, the score from a scale based on six traditional signs of alcoholism; GENERAL PSYCH IMPAIRMENT, an assessment of global psychological functioning based on items from the influential "Rand Studies" (Polich, Armor, & Braiker, 1981; Polich & Orvis, 1979); and ELEVATED MMPI SCALES, the number of k-corrected MMPI scales exceeding 70.

Results

Forced entry multiple regression analyses were done regressing each of the five criterion variables on TOTAL SYMPTOMS and DSMDX; and the independent impact of both TOTAL SYMPTOMS and DSMDX on the criterion measures was assessed[3]. In addition, the association of each individual symptom to each of the criterion measures was calculated.

Table 2 presents a summary of the regression results. For each of the five criterion measures, the means and standard deviations of the three DSMDX groups are shown, along with the rawscore regression equation relating the criterion to TOTAL SYMPTOMS. The R^2 statistic represents the proportion of variance in the criterion variables explained by each of the two predictors. Significant relationships were found between all five of the criterion measures and both DSMDX and TOTAL SYMPTOMS. However, the strength of the relationship was consistently greater for TOTAL SYMPTOMS than for DSMDX. Across the criterion measures, the mean proportion of variance explained by TOTAL SYMPTOMS was twice that explained by DSMDX.

The sR^2 statistic in Table 2 represents the incremental or independent proportion of variance explained by the two predictors; when the sR^2's for DSMDX and TOTAL SYMPTOMS are compared, the result is striking. For only one criterion, GENERAL PSYCH IMPAIRMENT, did DSMDX show a significant improvement in predictability over TOTAL SYMPTOMS; and in this case the increment in predictability was quite small. TOTAL SYMPTOMS, on the other hand, showed highly significant and meaningful improvement over DSMDX for all criterion measures. Across criterion measures, the increment in predictability provided by TOTAL SYMPTOMS was 15 times the increment provided by DSMDX. In other words, the ability of DSM-III diagnosis to predict these patterns of abuse and impairment is almost totally due to its relationship to TOTAL SYMPTOMS. TOTAL SYMPTOMS, on the other hand, adds considerably to the predictive power of DSMDX.

Moreover, a correlational analysis, summarized in table 3, shows TOLERANCE and WITHDRAWAL to be only mediocre correlates of the criterion variables; several other DSM-III symptoms (for example Binges, Daily Use and Blackouts) were more strongly related to the criteria. This is clearly not consistent with the DSM-III's special weighting of TOLERANCE and WITHDRAWAL. The Pearson correlation between DSMDX and TOTAL SYMPTOMS was .60.

Discussion

These results suggest that a straightforward tally of the individual symptoms used in the DSM-III alcohol abuse/dependence diagnostic system will provide a more valid indication of the degree of abuse and the severity of impairment than the DSM-III diagnosis itself. Furthermore, since it correlates only .60 with TOTAL SYMPTOMS, the DSM-III diagnosis cannot be held forth as a reasonable shorthand for such a tally. Tolerance and withdrawal do not emerge as cardinal correlates of abuse patterns or impairments. These results are not consistent with the emphasis placed on physiological aspects of dependence in the DSM-III. We suspect the discrepancy arises at least in part from a conceptual bias on the part of DSM-III's authors; a tendency to see physiological symptoms as more real or more meaningful than psychosocial symptoms.

Care should be taken in interpreting these data because the measures used were based on self-reports, and because the specificity of the group studied may weaken generalizability. Nevertheless, we believe these results have important theoretical, clinical and policy implications. Students of alcoholism have long used physical dependence as a central theoretical construct. In contrast, these results support Gitlow's (1982) assertion that "to differentiate" among alcohol users "on the basis of their addiction to ethanol makes no scientific (or) pharmocologic sense whatever ...some of the most severe alcoholic patients ...drink but periodically (p.358)". It is also possible to be a regular drinker, physically habituated to alcohol, and yet show relatively few consequences (Pattison, 1982; Reich & Filstead, 1984; Vaillant, 1983). These results support the view that alcoholism is a continuum with no clear dividing lines, rather than a yes/no condition. Researchers should therefore use extreme caution if using DSM-III criteria to define study groups.

With respect to clinical issues, the data presented here support the concerns expressed by Schact and Nathan (1977) and Smith and Kraft (1983) regarding DSM-III's grounding in the medical model. McLemore and Benjamin's (1979) caveat regarding DSM-III's downplay of psychosocial issues is also given empirical substance here. It is clear that diagnosis and treatment planning must go beyond simple considerations of physiological dependence into a more careful consideration of the number and nature of psychosocial as well as physical impairments. Policy decisions with respect to third party payments, disability determinations, treatment approach and the like must involve more than the diagnostic category into which an alcohol abusing patient is placed. If Diagnostic Reference Groups (DRG's), for example, are based on the assumption that patients who show physical dependence are necessarily in need of more care than patients

who did not, many needy individuals might be deprived of urgently needed treatment. Maladaptive behavior, impairment and prognosis fall on continua which are not easily reconciled with black and white categories (Cattell, 1983; Vaillant, 1983). This is especially true when the categories result from the misapplication of theoretically biased assumptions.

Footnotes

1. Copies of the ASAQ, along with a detailed explanation of the way individual ASAQ items were used in this research may be obtained from the authors.

2. Two DSM-III symptoms, "occasional consumption of a fifth of spirits or more" and "drinking of non-beverage alcohol" could not be identified in the ASAQ.

3. Separate regressions were done for male and female patients. No differences which could be seen as changing the results reported here emerged. Thus, only the combined results are reported.

References

American Psychiatric Association. (1980). Diagnostic and Statistical Manual of Mental Disorders (3rd. ed.). Washington, DC: Author.

Bozarth, M.A., & Wise, R.A. (1984). Anatcmically distinct opiate receptor fields mediate reward and physical dependence. Science, 224,4648,516-517.

Cattell, R.B. (1983). Let's end the duel. American Psychologist, 38,769-776.

Eddy, N.B., Halbach, H., Isbell, H., and Seevers, M.H. (1965). Drug dependence: Its significance and characteristics. WHO Bulletin, 32,721-733.

Edwards, G. & Gross, N.M. (1976). Alcohol dependence: Provisional description of a clinical syndrome. British Medical Journal, 1058-1061.

Gitlow, S.E. (1982). The clinical pharmacology and drug interactions of ethanol. In E.M. Pattison & E. Kaufman (Eds.), Encyclopedic handbook of alcoholism (pp.354-364). New York: Gardner Press.

Jellinek, E.M. (1960). The disease concept of alcoholism. New Haven, Conn.: College and University Press.

Keller, M. (1980). Psychological psuperstition and physical phallacy. British Journal of Addiction, 75, 225-226. Guest Editorial.

Marlatt, G.A. (1983). The controlled-drinking controversy: A commentary. American Psychologist, 38,1097-1110.

McLemore, C.W. & Benjamin, L.S. (1979). Whatever happened to interpersonal diagnosis? A psychosocial alternative to DSM-III. American Psychologist,34,17-34.

Millon, T. (1983). The DSM-III: An insider's perspective. American Psychologist,38,804-814.

Pattison, E.M. (1982). Variations in alcoholics. In E.M. Pattison (Ed.), Selection of treatment for alcoholics. New Brunswick, NJ.: Journal of Studies on Alcohol, Inc.

Pattison, E.M., & Kaufman, E. (1982). The alcoholism syndrome: Definitions and models. In E.M. Pattison & E. Kaufman (Eds.), Encyclopedic handbook of alcoholism (pp.3-30). New York: Gardner Press.

Polich, J.M., Armor, D.J., & Braiker, H.B. (1981). The course of alcoholism: Four years after treatment. New York: Wiley.

Polich, J.M., & Orvis, B.R. (1979). Alcohol problems: Patterns and prevalence in the U.S. Air Force. Santa Monica, CA.: The Rand Corporation.

Reich, W.P., & Filstead, W.J. (1984). An empirical examination of the concept of dependence. Manuscript in preparation.

Robins, L.H. (1982). The diagnosis of alcoholism after DSM-III. In E.M. Pattison & E. Kaufman (Eds.), Encyclopedic handbook of alcoholism. (pp. 40-54). New York: Wiley.

Schact, T., & Nathan, P.E. (1977). But is it good for the psychologists? Appraisal and status of DSM-III. American Psychologist, 32,1017-1025.

Skinner, H.A., & Allen, B.A. (1982) Alcoholic dependency syndrome: Measurement and validation. Journal of Abnormal Psychology, 91,199-209.

Smith, D., & Kraft, W.A. (1983). Do psychologists really want an alternative? American Psychologist,38,777-785.

Stockwell, T., Hodgson, R., Edwards, G., Taylor, C., & Ranken, H. (1979). The development of a questionnaire to measure severity of alcohol dependence. British Journal of Addiction, 74, 79-87.

Vaillant, G.E. (1983). The natural history of alcoholism. Cambridge, MA.: Harvard University Press.

Wise, R.A. (1984). Quoted in C. Culhane, Physical dependence not critical addiction factor. U.S. Journal of Drug and Alcohol Dependence,1984,8,6,p.5. Quotation verified in personal communication with the first author (WPR), July, 1984.

Table 1.

DSM-III ALCOHOL "ABUSE" AND ALCOHOL "DEPENDENCE" DIAGNOSTIC CRITERIA*

I Alcohol Abuse — (Diagnosis requires at least one from each of A, B and C.)

A). Pattern of pathological alcohol use:

- need for daily use for adequate functioning
- inability to cut down or stop
- repeated efforts to control use
- binges
- occasional consumption of a fifth or more
- blackouts
- drinking in spite of a serious physical disorder which is exacerbated by alcohol use
- drinking of nonbeverage alcohol

B). Impairment in social or occupational functioning due to alcohol use:

- violence while intoxicated
- absence from work
- loss of job
- legal difficulties
- arguments or difficulties with family or friends because of excessive alcohol use

C). Duration of disturbance for at least one month

II Alcohol Dependence

A). One symptom from either "pattern of pathological alcohol use" or (emphasis added) "Impairment in social/occupational functioning" (as defined in alcohol abuse)

B). Either tolerance or withdrawal:

- tolerance: need for markedly increased amounts to achieve same effect

- withdrawal: development of alcohol withdrawal (e.g., morning "shakes" and malaise relieved by drinking)

*Adapted from: American Psychiatric Association, 1980, pp. 169-170.

TABLE 2.

Multiple Regression Analyses for DSM-III Diagnosis and for Total Symptoms by Criterion Variables

Criterion	Predictors	Group Mean and (S.D.)/ Regression Equation	Relationship of Predictors and Criterion Variables R^2	F*	Incremental Variance in Criterion Measures Explained by Predictors SR^2	F
Days Drunk	DSMDX (No D_X)	4.3 (6.5)				
	(Abuser)	9.0 (9.0)	.05	20.7	0.001	0.51 (N.S.)
	(Dependent)	10.9 (9.7)				
	SYMPTOMS y = 1.0 + 1.5 X (0.13)		.15	146.7	.11	101.00 (p<.001)
Daily Absolute Alcohol Consumption	DSMDX (No D_X)	5.6 (4.7)				
	(Abuser)	6.7 (4.0)	.05	19.3	.01	4.35 (N.S.)
	(Dependent)	9.0 (6.8)				
	SYMPTOMS y = 4.4 + .69 X (0.10)		.07	62.3	.04	31.43 (p<.001)
Problem Index	DSMDX (No D_X)	10.9 (6.5)				
	(Abuser)	15.0 (5.6)	.14	66.6	.002	1.60 (N.S.)
	(Dependent)	18.7 (6.6)				
	SYMPTOMS y = 6.3 + 1.6 X (0.03)		.35	439.9	.21	266.50 (p<.001)
Elevated MMPI Scales	DSMDX (No D_X)	2.2 (2.2)				
	(Abuser)	3.0 (2.4)	.04	17.4	.001	0.41 (N.S.)
	(Dependent)	3.6 (2.7)				
	SYMPTOMS y = 1.1 + 0.3 X (0.04)		.09	83.0	.05	46.87 (p<.001)
General Psychological Impairment	DSMDX (No D_X)	8.9 (3.8)				
	(Abuser)	11.0 (3.0)	.12	53.3	.02	8.74 (p<.001)
	(Dependent)	12.3 (2.9)				
	SYMPTOMS y = 8.1 + 0.5 X (0.04)		.16	151.5	.06	57.75 (p<.001)

*All F's are significant beyond p<.001 unless otherwise specified.

TABLE 3.
PEARSON CORRELATION OF CRITERION VARIABLES
WITH INDIVIDUAL DSM-III SYMPTOMS*

	DAYS DRUNK	DAILY ABSOLUTE ALCOHOL CONSUMPTION	PROBLEM INDEX	ELEVATED MMPI SCALES	GENERAL PSYCH IMPAIRMENT
DAILY USE	.38	.25	.27	.02 NS	.05 NS
INABILITY TO CUT DOWN OR STOP	.15	.08 (<.009)	.40	.11	.21
REPEATED EFFORTS TO CONTROL	.17	.10	.26	.11	.24
BINGES	.21	.30	.28	.12	.16
BLACKOUTS	.30	.17	.45	.15	.26
DRINKING IN SPITE OF ILLNESS	.04 NS	.01 NS	.03 NS	.09 (<.003)	.03 NS
VIOLENCE WHILE INTOXICATED	.08 (<.012)	.11	.05 NS	.12	.12
ABSENCE FROM WORK	.12	.11	.28	.10	.12
LOSS OF JOB	.07 (<.03)	.07 (<.03)	.15	.15	.16
LEGAL DIFFICULTIES	.09 (<.004)	.04 NS	.04 NS	.06 (<.03)	.02 NS
ARGUMENTS/DIFFICULTIES WITH FAMILY/FRIENDS	.15	.07 (<.02)	.35	.14	.23
TOLERANCE	.19	.16	.30	.16	.29
WITHDRAWAL	.12	.15	.26	.16	.19

*The sample size varies from 920 to 806.
All associations are significant with p<.001 unless noted otherwise.